"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

Prokhonchukov, A.

"The Condition of Hard Dental Tissues During Radiation Sickness," by A. A. Prokhonchukov, Chair of Pathological Physiology (head, Prof N. A. Fedorov) and the Chair of Roentgenology and Radiology (head, Prof I. A. Shekhter) Moscow Medical Stomatology Institute (director, Docent G. N. Beletskiy), Stomatologiya, No 2, Mar/Apr 57, pp 3-8

Five series of experiments were conducted on 174 albino rats which were irradiated by single X-ray doses of 500 and 700 r, and analyses were run 20 and 50 days after irradiation by using radioisotopes of calcium and phosphorus.

Results proved that X-ray irradiation caused marked and regular changes of the hard dental tissue of rats in the form of disturbances of calcium and phosphorus metabolism. These changes were related to dose and time elapsed after irradiation.

The author concludes that these changes in calcium and phosphorus metabolism are related to dystrophic processes which at definite periods can develop into structural and morphological changes of the hard dental tissue. (U)

Sum 1N 1451

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PROKHONCHUKOV, A.A.

Metabolism of C^{14}-labeled glycine in calcified tissues during acute radiation sickness. Radiobiologiia 1 no.3:340-345 '61.
(MIRA 14:10)

1. Moskovskiy meditsinskiy stomatologicheskiy institut.
(GLYCINE) (BONES) (X RAYS--PHYSIOLOGICAL EFFECT)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

PROKHONCHUKOV, A.A., starshiy nauchnyy sotrudnik

Method for dosimetry of C^{14} and S^{35} in teeth and jaws. Stomatologiia 40 no.1:93-94 Ja-F '61. (MIRA 14:5)

1. Iz kafedry patologicheskoy fiziologii (zav. - prof. N.A.Fedorov) Moskovskogo meditsinskogo stomatologicheskogo instituta (direktor - dotsent G.N.Beletskiy).

(RADIOACTIVITY--MEASUREMENT) (CARBON--ISOTOPES)
(SULFUR--ISOTOPES)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

FEDOROV, N.A., prof.; PROKHONCHUKOV, A.A., starshiy nauchnyy sotrudnik; ZHIZHINA, N.A., assitent

Mechanism of experimental radiation-induced paradentosis. Teor. i prak. stom. no. 5:165-174 '61. (MIRA 16:12)

1. Iz kafedry patologicheskoy fiziologii (zav.-chlen-korrespondent AMN SSSR prof. N.A.Fedorov) i nauchno-issledovatel'skoy laboratorii (zav. - starshiy nauchnyy sotrudnik A.A. Prokhonchukov) Moskovskogo meditsinskogo stomatologicheskogo instituta. 2. Chlen- korrespondent AMN SSSR (for Fedorov).

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

PROKHONCHUKOV, A. A.

Changes in methionine-C^{14} metabolism in calcified tissues during acute radiation sickness. Radiobiologiia 2 no.3:424-428 '62. (MIRA 15:7)

1. Moskovskiy meditsinskiy stomatologicheskiy institut.

(METHIONINE) (RADIATION SICKNESS) (BONES)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

PROKHONCHUKOV, A. A.; PANIKAROVSKIY, V. V.

Significance of humeral factors in the development of radiation-induced changes in teeth and jaws. Radiobiologiia 2 no.3:429-433 '62. (MIRA 15:7)

1. Moskovskiy meditsinskiy stomatologicheskiy institut.

(X RAYS--PHYSIOLOGICAL EFFECT) (JAWS)
(TEETH)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

PROKHONCHUKOV, A.A.; PANIKAROVSKIY, V.V. (Moskva)

Role of humoral mechanisms in the development of radiation changes in the salivary glands. Pat. fiziol. i eksp. terap. 6 no. 3:62-64 My-Je '62. (MIRA 17:2)

1. Iz Moskovskogo meditsinskogo stomatologicheskogo instituta (direktor - dotsent G.N.Beletskiy).

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

PROKHONCHUKOV, A.A.

Significance of the statistical analysis of the results of scientific stomatologic studies. Stomatologiia 41 no.5:32-36 S-O '62. (MIRA 16:4)

1. Iz nauchno-issledovatel'skoy laboratorii (zav. - starshiy nauchnyy sotrudnik A.A.Prokhonchukov) Moskovskogo meditsinskogo stomatologicheskogo instituta.
(STOMATOLOGY) (MEDICAL STATISTICS)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

PROKHONCHUKOV, A.A. (Moskva)

Metabolism of C^{14} Labeled lysine in calcified tissues during acute radiation sickness. Pat. fiziol. i eksp. terap. 7 no.1: 81-83 Ja-F'63. (MIRA 16:10)

1. Iz kafedry patologicheskoy fiziologii (zav. - chlen-korrespondent AMN SSSR prof. N.A.Fedorov) i nauchno-issledovatel'skoy laboratorii (zav. - starshiy nauchnyy sotrudnik A.A. Prokhonchukov) Moskovskogo meditsinskogo stomatologicheskogo instituta.

(LYSINE) (RADIATION SICKNESS) (BONES)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

PANIKAROVSKIY, V.V.; PROKHONCHUKOV, A.A.; ZHIZHINA, N.A.

Experimental study of the morphogenesis of pericementitis.
Stomatologiia 42 no.3:17-19 My-Je '63 (MIRA 17:1)

1. Iz kafedry patologicheskoy fiziologii (zav. - chlen-korrespondent AMN SSSR prof. N.A. Fedorov) i nauchno-issledovatel'skoy laboratorii (zav. - starshiy nauchnyy sotrudnik A.A. Prokhonchukov) Moskovskogo meditsinskogo stomatologicheskogo instituta.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

PROKHONCHUKOV, A.A., starshiy nauchnyy sotrudnik; PANIKAROVSKIY, V.V., starshiy nauchnyy sotrudnik

Regeneration processes in the tissues of the maxillodental system following the action of ionizing radiation. Teor. i prak.stom. no.6:41-47 '63. (MIRA 18:3)

1. Iz kafedry patologicheskoy fiziologii (zav. - chlen-korrespondent AMN SSSR prof. N.A.Fedorov), kafedry propedevtiki khirurgicheskoy stomatologii (zav. - prof. G.A.Vasil'yev) i nauchno-issledovatel'skoy laboratorii (zav. - starshiy nauchnyy sotrudnik A.A.Prokhonchukov) Moskovskogo meditsinskogo stomatologicheskogo instituta.

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ACCESSION NR: AR4027240 S/0299/64/000/002/P068/P068

SOURCE: RZh. Biologiya, Abs. 2P431

AUTHOR: Prokhonchukov, A. A.; Panikarovskiy, V. V.

TITLE: The condition of the maxillodental system during the experimental therapy of radiation sickness

CITED SOURCE: Sb. Teoriya i praktika stomatol. M., vy*p. 6, 1963, 61-63

TOPIC TAGS: radiation sickness, radiation protection, dental tissue, maxillodental system, bone damage, ACTH, leukogen, batyl alcohol, selachyl alcohol

TRANSLATION: In experiments on 108 white rats, the condition of the maxillodental system was studied during experimental therapy of acute and chronic radiation sickness with ACTH, selachyl and batyl alcohol, bofend (kaferid) and leukogen, separately and in various combinations. The animals were subjected to a single (700 r) or multiple doses (50 r 3 times a week, total dose 1450 r) of irradiation. After 30 days the animals were sacrificed, and samples were fixed in a 12% solution of neutral formalin and decalcified in 10% HNO_3, followed by embedding in celloidin.

Card 1/2

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ACCESSION NR: AR4027240

Sections were stained with hematoxylin-eosin. Under the conditions of acute irradiation, ACTH gave a pronounced therapeutic effect while the effect with selachyl alcohol was weak. A combination of bofend and leukogen gave a very good therapeutic effect during chronic radiation sickness. In this group of animals, the histologic picture of the maxillodental system was only slightly different from the normal. Use of selachyl alcohol in acute and chronic radiation sickness gave only an insignificant therapeutic effect. The use of combinations of batyl alcohol and leukogen or bofend gave a satisfactory therapeutic response in chronic radiation sickness. Comparative analysis shows that experimental therapy gives a more pronounced effect in chronic than in acute radiation sickness, which is characterized by a rapid development of degenerative changes in the tissues. V. Kozlov

DATE ACQ: 14Feb64 SUB CODE: LS ENCL: 00

Card 2/2

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

PROKHONCHUKOV, A.A., starshiy nauchnyy sotrudnik

Construction of a radio feeler with an end counter and a collimator for the examination of the oral cavity. Teor. i prak.stom. no.6:170-172 '63. (MIRA 18:3)

1. Iz nauchno-issledovatel'skoy laboratorii (zav. - starshiy nauchnyy sotrudnik A.A.Prokhonchukov) Moskovskogo meditsinskogo stomatologicheskogo instituta.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

PROKHONCHUKOV, A.A.

Study of the incorporation and excretion of methionine-[illegible] methionine C14 in the proteins of calcified tissues in rats. Vop.med. khim. 10 no.2:208-211 Mr-Ap '64. (MIRA 18:1)

1. Kafedra patologicheskoy fiziologii i nauchno-issledovatel'skaya laboratoriya Moskovskogo meditsinskogo stomatologicheskogo instituta.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

PROKHONCHUKOV, A.A.; LANIKAROVSKIY, V.V. (Moskva)

Radiation-induced changes in the salivary glands. Arkh. pat. 24 no.11:47-50 '62. (MIRA 18:1)

1. Iz kafedry patologicheskoy fiziologii (zav. - chlen-korrespondent AMN SSSR prof. N.A.Fedorov), kafedry propedevtiki khirurgicheskoy stomatologii (zav. - prof. V.A.Vasil'yev) i nauchno-issledovatel'skoy laboratorii (zav. - starshiy nauchnyy sotrudnik A.A. Prokhonchukov) Moskovskogo meditsinskogo stomatologicheskogo instituta.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

PANIKAROVSKIY, V.V., starshiy nauchnyy sotrudnik; PROKHONCHUKOV, A.A., starshiy nauchnyy sotrudnik

Effect of radioactive iodine on the maxillodental system. Teor. i prak.stom. no.6:55-60 '63.

State of the maxillodental system in experimental therapy of radiation sickness. Ibid.:61-63 (MIRA 18:3)

1. Iz kafedry patologicheskoy fiziologii (zav. - chlen-korrespondent AMN SSSR prof. N.A.Fedorov) i nauchno-issledovatel'skoy laboratorii (zav. - starshiy nauchnyy sotrudnik A.A.Prokhonchukov) Moskovskogo meditsinskogo stomatologicheskogo instituta.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

ZHIZHINA, N.A., starshiy nauchnyy sotrudnik; PROKHONCHUKOV, A.A., starshiy nauchnyy sotrudnik

Regularities of protein metabolism in the bony tissue of the jaws. Teor. i prak.stom. no.6:68-82 '63. (MIRA 18:3)

1. Iz kafedra patologicheskoy fiziologii (zav. - chlen-korrespondent AMN SSSR prof. N.A.Fedorov) i nauchno-issledovatel'skoy laboratorii (zav. - starshiy nauchnyy sotrudnik A.A.Prokhonchukov) Moskovskogo meditsinskogo stomatologicheskogo instituta.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

PROKHONCHUKOV, A.A.

Effect of incorporated radioactive iodine on the protein metabolism in calcified tissues. Radiobiologiia 3 no. 6: 803-804 '63. (MIRA 17:7)

1. Tsentral'nyy nauchno-issledovatel'skiy institut stomatologii, Moskva.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

PROKHONCHUKOV, A.A.; SHISHINA, N.A.; PANIKAROVSKIY, V.V.

Changes in phosphorus and calcium metabolism during the development of experimental dental caries in rats of the "August" strain; a radioisotopic investigation. Stomatologiia 42 no.4: 18-25 Jl-Ag'63 (MIRA 17:4)

1. Iz kafedry patologicheskoy fiziologii (zav. - chlen-korrespondent AMN SSSR prof. N.A. Fedorov) i nauchno-issledovatel'skoy laboratorii (zav. - starshiy nauchnyy sotrudnik A.A. Prokhonchukov) Moskovskogo meditsinskogo stomatologicheskogo instituta.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

PROKHONCHUKOV, A.A.; PANIKAROVSKIY, V.V.

Changes in the maxillodental system in multiple X-ray irradiation. Med. rad. 8 no.4:47-53 Ap'63 (MIRA 17:2)

1. Iz kafedry patologicheskoy fiziologii (zav. - chlen-korrespondent AMN SSSR prof. N.A. Fedorov) i nauchno-issledovatel'skoy laboratorii (zav. - starshiy nauchnyy sotrudnik A.A. Prokhonchukov) Moskovskogo meditsinskogo stomatologicheskogo instituta.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

PROKHONCHUKOV, A.A.

Effect of radioactive phosphorus on mineral and protein metabolism in calcified tissues. Radiobiologiia 3 no.3: 345-350 '63. (MIRA 17:2)

1. Moskovskiy meditsinskiy stomatologicheskiy institut.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

PROKHONCHUKOV, A.A., starshiy nauchnyy sotrudnik; ZHIZHINA, N.A., assistent.

Materials on mineral and protein metabolism of the bony tissue of the jaw. Teor. i prak. stom. no.5:157-164 '61 (MIRA 16:12)

1. Iz kafedry patologicheskoy fiziologii (zav. - chlen-korrespondent AMN SSSR prof. N.A. Fedorov) i nauchno-issledovatel'skoy laboratorii (zav. - starshiy nauchnyy sotrudnik A.A. Prokhonchukov).

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

PROKHONCHUKOV, A.A.; LYU DIN-SIN' [Liu Ting-hsin]

Radiochemical method for determining glycine-C^{14} and $Ca^{45}Cl_2$ in a mixture of calcified tissues. Med.rad. no.7:70-72 '61. (MIRA 15:1)

1. Iz laboratorii kafedry patologicheskoy fiziologii Moskovskogo meditsinskogo stomatologicheskogo instituta.
(GLYCINE) (CALCIUM IN THE BODY) (BONES) (TEETH)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

PROKHONCHUKOV, A. A.; PANIKAROVSKIY, V. V. (Moskva)

Changes in the parotid glands following repeated action of ionizing radiations. Arkh. pat. no.8:39-44 '61. (MIRA 15:4)

1. Iz laboratorii kafedry patologicheskoy fiziologii (zav. - chlen-korrespondent AMN SSSR prof. N. A. Fedorov) i kafedry propedevtiki khirurgicheskoy stomatologii (zav. - dotsent G. A. Vasil'yev) Moskovskogo meditsinskogo stomatologicheskogo instituta (dir. - dotsent G. N. Beletskiy)

(PAROTID GLANDS) (RADIATION—PHYSIOLOGICAL EFFECT)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

PROKHONCHUKOV, A.A., starshiy nauchnyy sotrudnik; PANIKAROVSKIY, V.V., starshiy nauchnyy sotrudnik

Morphological changes in the salivary glands in chronic radiation sickness. Vrach. delo no.2:98-102 F '62. (MIRA 15:3)

1. Laboratoriya kafedry patologicheskoy fiziologii (zav. - chlen-korrespondent AMN SSSR, prof. N.A. Fedorov) i kafedra propedevtiki khirurgicheskoy stomatologii (zav. - dotsent G.A. Vasil'yev) Moskovskogo meditsinskogo stomatologicheskogo instituta.
(SALIVARY GLANDS)
(RADIATION SICKNESS)

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FEDOROV, N. A.; GRABSTSKIY, A. A.; LISENKO, N. V.; DAGAEVA, L. N.; BOROVSKIY, Ye. V. ROZHANSKIY, M. Ye.; PROKHONCHUKOV, A. A.

Radioactive Tracers

Studies on mineral metabolism in hard tissue of the tooth with the aid of radioactive tracers. Stomatologiia, No. 1, 1953.

Monthly List of Russian Accessions, Library of Congress, June 1953. Uncl.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

PROKHOROV, A.F.

Necessity of the revaccination of children against diphtheria at the age of six. Zhur. mikrobiol., epid. i immun. 40 no.3:119-120 Mr '63. (MIRA 17:2)

1. Iz Rostovskogo-na-Donu meditsinskogo instituta.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

FEDOROV, N.A., prof.; PROKHONCHUKOV, A.A., nauchnyy sotrudnik

Pyorrhea alveolaris in rats by ionizing radiation. Stomatologiia 38 no.2:3-7 Ap '59. (MIRA 12:7)

1. Iz kafedry patologicheskoy fiziologii (zav. - prof. N. A. Fedorov) Moskovskogo meditsinskogo stomatologicheskogo instituta (dir. - dotsent G. N. Beletskiy)
(GUMS--DISEASES) (X RAYS--PHYSIOLOGICAL EFFECT)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

MASHTAKOV, S.M.; PROKHORCHIK, R.A.

Stimulation of photosynthesis and the Hill reaction in the leaves of corn grown from seeds treated with simazine and atrazine. Dokl. AN BSSR 7 no.10:700-703 O '63.
(MIRA 16:11)

1. Institut biologii AN BSSR. Predstavleno akademikom AN BSSR I.D. Yurkevichem.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

MASHTAKOV, S.M.; PROKHORCHIK, R.A.

Study of triazine derivatives as growth regulators in plants. Report No.IV: Effect of simazine and atrazine on the change in intensity of the photosynthesis and respiration of plants. Dokl. AN BSSR 7 no.6:418-421 Je '63. (MIRA 16:10)

1. Institut biologii AN BSSR. Predstavleno akademikom AN BSSR I.D. Yurkevichem.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

MASHTAKOV, S.M.; PROKHORCHIK, R.A.

Study of triazine derivatives as regulators of plant growth. V. Change in the photochemical activity of chloroplasts under the influence of simazine and atrazine. Dokl. AN BSSR 7 no.8:557-560 Ag '63. (MIRA 16:10)

1. Institut biologii AN BSSR. Predstavleno akademikom AN BSSR I.E. Yurkevichem.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

MASHTAKOV, S.M. [Mashtakou, S.M.]; PROKHORCHIK, R.A. [Prokharchyk, R.A.]

Physiological reactions of plants to simazine and atrazine.
Vestsi AN BSSR Ser. biial. nav. no.3:46-53 '64 (MIRA 18:1)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

PROKHORCHUK, I.S.

Disinfection of the diffusion battery. Sakh.prom. 35 no.4:32-33 Ap '61. (MIRA 14:3)

1. Gruppovaya laboratoriya Chernovitskogo sakharotresta.
(Diffusers) (Sugar—Disinfection)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

ALEKSEYEV, D.G.; VEYNOV, K.A.; GORCHENKOV, S.G.; GUREVICH, S.B.; DITKOVSKIY, A.S.; KAMKOV, G.I.; MORGEN, D.I.; PROKHORCHUK, I.S.; RUMYANTSEV, N.M.; UCHASTKINA, Z.V.; SHISHOV, I.A.; MOLOZHAVYY, M.M., red.; NIKOLAYEV, N.N., red.; CHISTYAKOV, N.N., red.; KHUDYAKOVA, A.V., red.; MOROZOV, Yu.V., red.izd-va; BACHURINA, A.M., tekhn.red.

[Soviet paper industry, 1917-1957] Bumazhnaia promyshlennost' SSSR, 1917-1957 gg. Pod obshchei red. K.A.Veinova. Moskva, Goslesbumizdat, 1958. 147 p. (MIRA 12:3)

1. Nauchno-tekhnicheskoye obshchestvo bumazhnoy i derevoobrabatyvayushchey promyshlennosti. 2. Chlen Nauchno-tekhnicheskogo obshchestva bumazhnoy i derevoobrabatyvayushchey promyshlennosti (for all except Morozov, Bachurina).

(Paper industry)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

PROKHORCHUK, I.S.; ANTROPOV, N.A.

Training and employing engineering economists at woodworking enterprises. Der. prom. 14 no.5:18-19 My '65. (MIRA 18:6)

1. Lesotekhnicheskaya akademiya im. S.M. Kirova.

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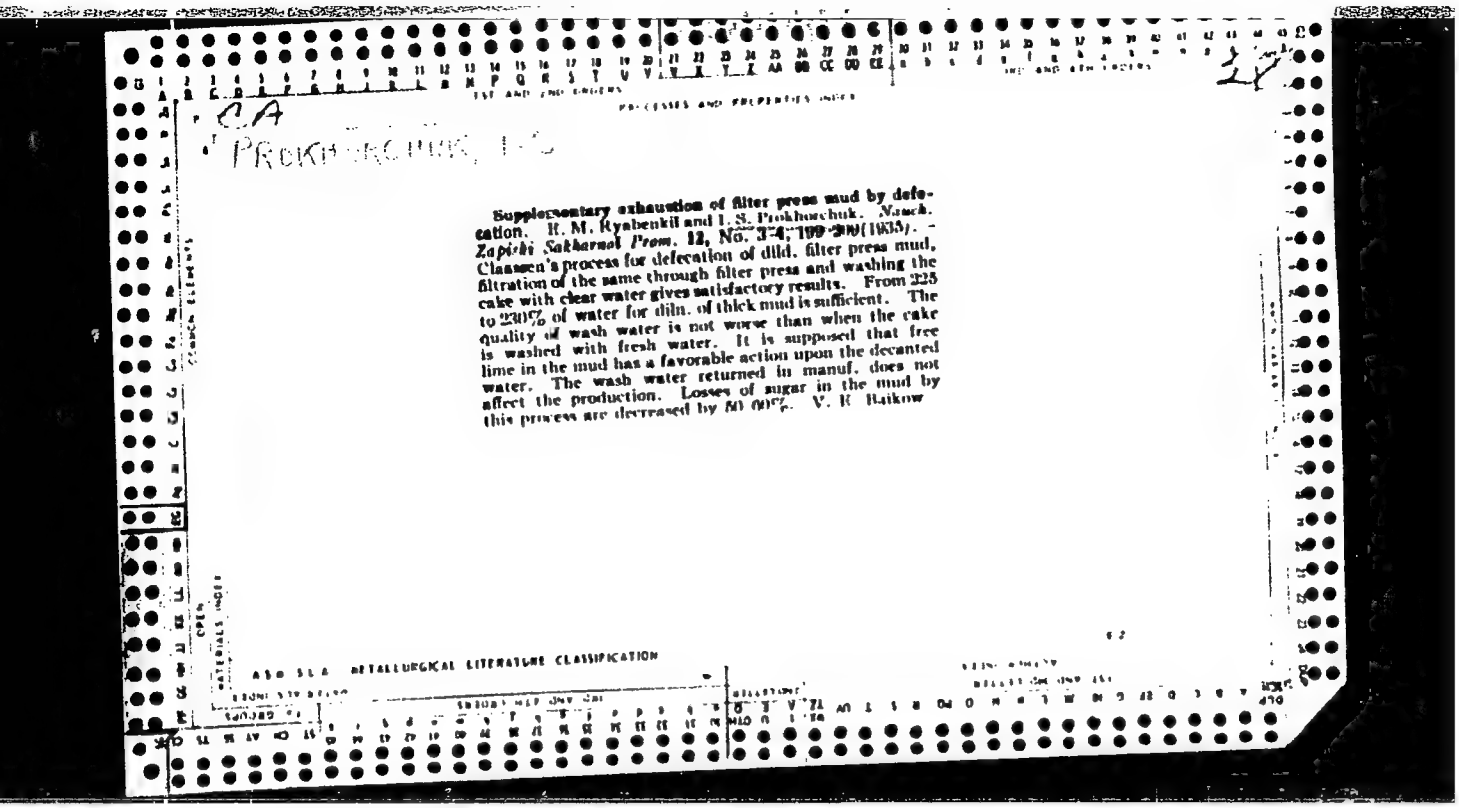

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PROKHORCHUK, I. S.

Supplementary exhaustion of filter press mud by defecation. R. M. Ryabenkii and I. S. Prokhorchuk. *Nauch. Zapiski Sakharnoi Prom.* **12**, No. 3-4, 199-200 (1935). — Classen's process for defecation of dild. filter press mud, filtration of the same through filter press and washing the cake with clear water gives satisfactory results. From 225 to 230% of water for dilu. of thick mud is sufficient. The quality of wash water is not worse than when the cake is washed with fresh water. It is supposed that free lime in the mud has a favorable action upon the decanted water. The wash water returned in manuf. does not affect the production. Losses of sugar in the mud by this process are decreased by 50.60%. V. P. Baikow

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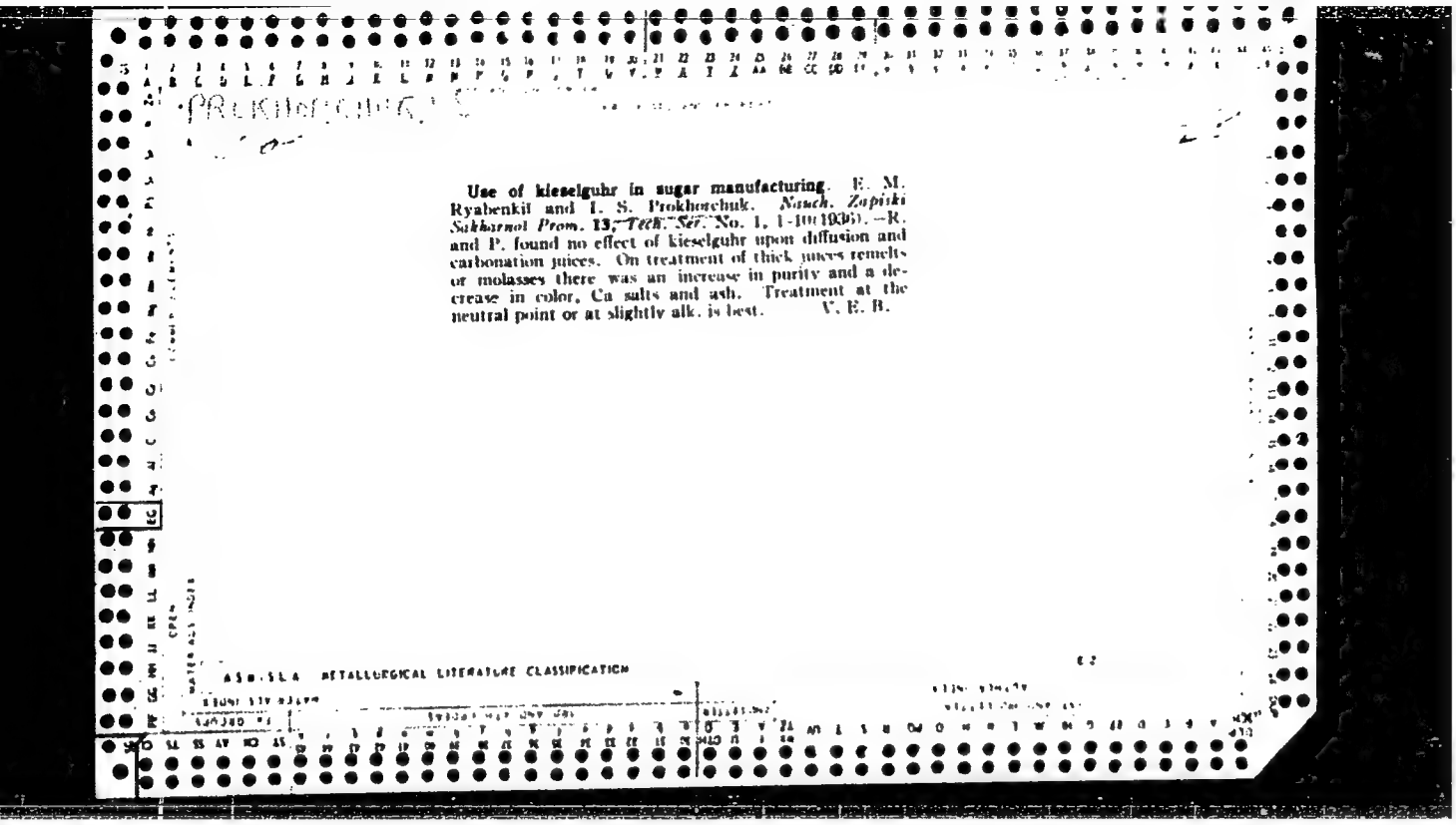

Use of kieselguhr in sugar manufacturing. E. M. Ryabenkii and I. S. Prokhorchuk. *Nauch. Zapiski Sakharnoi Prom.* **13**, *Tech. Sér.* No. 1, 1-10(1939).—R. and P. found no effect of kieselguhr upon diffusion and carbonation juices. On treatment of thick juices remelts or molasses there was an increase in purity and a decrease in color, Ca salts and ash. Treatment at the neutral point or at slightly alk. is best. V. E. B.

A S M - S L A METALLURGICAL LITERATURE CLASSIFICATION

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PROKHORCHUK, I.S.

Refractometric method for determining the sugar content of the filtration precipitate. Sakh.prom. 37 no.6:43-46 Je '63.
(MIRA 16:5)

1. Chernovitskaya gruppovaya laboratoriya.
(Sugar--Analysis and testing) (Refractometer)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

PROKHORCHUK, I.S., prof.; SAMKNULO, G.M., dots.; BOYTSOV, K.P., dots.; NECHUYATOVA, N.P., dots.; POPOV, N.I., dots.; SITKHINA, D.Ye., MITIN, A.G., dots.; SUCHIL'NIKOV, N.G., red.; GOSPODARSKAYA, T.N., red. izd-va; GRECHISHCHEVA, V.I., tekhn. red.

[Economics of the woodworking industry] Ekonomika lesoobrabatyvaiushchei promyshlennosti. Moskva, Goslesbumizdat, 1961. 309 p. (MIRA 15:3)

1. Leningradskaya lesotekhnicheskaya akademiya im. S.M.Kirova (for Prokhorchuk, Boytsov, Nechuyatova, Popov, Sitkhina, Mitin).
2. Vsesoyuznyy zaochnyy lesotekhnicheskiy institut (for Samknulo).
(Woodworking industries)

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ANTROPOV, Nikolay Alekseyevich; PROKHORCHUK, Iosif Sidorovich; GOLUBEVA, T.M., inzh., red.; GRIGOR'YEVA, I.S., red. izd-va; BELOGUROVA, I.A., tekhn. red.

[Determining the prospective need for specialists in woodworking industries] Opredelenie perspektivnoi potrebnosti v spetsialistakh na derevoobrabatyvaiushchikh predpriiatiiakh. Leningrad, 1961. 29 p. (Leningradskii dom nauchno-tekhnicheskoi propagandy. Obmen peredovym opytom. Seriia: Derevoobrabatyvaiushchaia promyshlennost', no.12) (MIRA 15:5)
(Technicians in industry) (Woodworking industries--Management)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

PROKHORCHUK, T.

TISHCHENKO, D.; PROKHORCHUK, T.

A new type of terpene conversion. Part 17: Effect of chlorine on w-chlorocamphene. Zhur. ob. khim. 27 no.2:377-379 F '57.
(MLRA 10:6)

1. Leningradskaya lesotekhnicheskaya akademiya.
(Camphene)

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PROKHORCHUK, T.

AUTHORS: Tishchenko, D. and Prokhorchuk, T. 79-2-22/53

TITLE: New Type of Terpene Conversions. Part 17. Reaction of Chlorine with omega Chlorocamphene (Novyy tip prevrashcheniy terpenov, XVII. Deystviye khlora na omega-khlorkamfen)

PERIODICAL: Zhurnal Obshchey Khimii, 1957, vol 27, No 2, pp. 377-379 (U.S.S.R.)

ABSTRACT: Reference is made to the anomalous M.D.L'vov reaction which during the reaction of chlorine with camphene showed the lowest specific weight in comparison with other terpenes. It was proven during the chlorination of omega-chlorocamphene that the specific weight of the "anomalous" reaction should be higher than in the case of camphene because the negative inductive reaction of the Cl atom strengthens the polarization of the double bond necessary for anomalous reaction. The presence of unsaturated camphene dichlorides and dichlorides of bicyclo-(1,2,2-)-3-dichloromethyl-2,2-dimethylheptene-3 in the mixture was proven in spite of the Bredt statement to the contrary. The percentage of the

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New Type of Terpene Conversions. Part 17 79-2-22/58

"anomalous" reaction was established at 63.3 and 69.5 respectively.

There are 3 references, 2 of which are Slavic

ASSOCIATION: Leningrad Forestry Engineering Academy

PRESENTED BY:

SUBMITTED: March 9, 1956

AVAILABLE: Library of Congress

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

LYAMIN, V.A.; PROKHORCHUK, T.I.

Gasification of spruce shavings of various moisture content.
Trudy LTA no.87:55-64 '59. (MIRA 13:4)
(Wood waste) (Spruce)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

ZHUKOV, A., kand.tekhn.nauk; PROKHORCHUK, V., inzh.; STADNIK, V., inzh.

Some technical and heat-engineering parameters of the production of expanded perlite in a rotary kiln. Bud.mat.i konstr. no.5: 42-45 S-O '62. (MIRA 15:11)
(Perlite (Mineral)) (Kilns, Rotary)

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BELAYA, Natal'ya Mikhaylovna; PROKHORENKO, Anatoliy Georgiyevich; MUSINYAN, T.M., otv. red.

[Cableways for lumber transportation] Kanatnye lesotransportnye ustanovki. Moskva, Lesnaia promyshlennost', 1964. 298 p. (MIRA 18:5)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

Prokhorenko, A.G.

BELAYA, N.M., kandidat tekhnicheskikh nauk; PROKHORENKO, A.G., inzhener.

Cable railroads with immovable cables and automotive hoists. Izobr. v SSSR 2 no.4:19-20 Ap '57. (MLRA 10:6)
(Railroads, Cable)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

PROKHORENKO, Ivan Denisovich [Prakharenka, I.D.]; ASYANENKA, T., red.
SLAVYANIN, I., tekhn. red.

[Chemistry and the solution of the basic economic problem of the U.S.S.R.] Khimiia i rashenne asnounai ekanamichnai zadachy SSSR. Minsk, Dziarzh. vyd-va BSSR. Red. masava-palit. lit-ry, 1959. 50 p.
(MIRA 14:10)
(Chemical industries)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

PROKHORENKO, K.

Praiseworthy initiative. Nauka i zhyttia 10 no.6:20-21 Je '60. (MIRA 13:7)

1. Kolkhoz "Ukraina" Velikovradovskogo rayona Nikolayevskoy oblasti.
(Bol'shaya Vradiyevka District—Stock and stockbreeding)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

PROKHDRENKO, Kost' (selo Lesovody, Gorodetskogo rayona, Khmel'nitskoy oblasti)

Beacons of our life. Nauka i zhyttia 11 no. 4:29-32 Ap '61.
(MIRA 14:5)
(Gorodokskiy District—Agriculture)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

PROKHORENKO, Kim Kondrat'yevich; DOBROKHOTOV, N.N., redaktor; SAMOKHVALOV Ya. A., redaktor; KRYLOVSKAYA, M.S., tekhnicheskiy redaktor.

[Steel casting and the quality of steel ingots] Razlivka stali i kachestvo stal'nykh slitkov. Kiev, Izd-vo Akademii nauk USSR, 1955. 116 p. (MLRA 8:11)

1. Deystvitel'nyy chlen Akademii Nauk Ukrainskoy SSR(for Dobrokhotov)
(Steel castings)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

Prokhorenko, Kim Kondr$_a$t'yevich

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Razlivka Stali I Kachestvo Stal'nykh Slitkov
(Pouring Steel and the Quality of Steel Ingots)

Kiyev, Izd-vo Akademii Nauk Ukrainskoy SSR, 1955.

116, (2) P. Diagrs., Tables.

At head of title: Akademiya Nauk Ukrainskoy SSR. Institut Chernoy Metallurgii.

"Literatura": P. (118)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

PROKHORENKO, K.K.

Change of hydrogen content in open hearth steel in the process of its production. Vop. proizv. stali no.4:34-46 '56.
(Steel--Hydrogen content) (MLRA 10:4)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

PROKHORENKO, K. K. Cand Tech Sci -- (diss) " Study of the effect of the technology of melting and casting pipe and band steel upon the quality of steel ingots." Dnepropetrovsk, 1956. 14 pp 20 cm. (Acad Sci UkSSR. Inst of Ferrous Metallurgy), 100 copies

(KL. 7-57, 107)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

PROKHORENKO, K.K.

Influence of smelting technology on the quality of pipe steel.
Vop. proizv. stali no.4:46-56 '56. (MLRA 10:4)
(Steel--Quality control)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

SOV/137-57-6-9746

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 6, p 62 (USSR)

AUTHOR: Prokhorenko, K.K.

TITLE: Influence of Melting Procedure on Steel Quality (Vliyaniye tekhnologii vyplavki na kachestvo stali)

PERIODICAL: V sb.: Vopr. proiz-va stali. Nr 4. Kiyev, AN UkrSSR, 1956, pp 47-56

ABSTRACT: St 4 open-hearth steel was bottom poured into cylindrical ingots at a rate of 250-350 mm/min. Statistical analysis of the results of slag control and data on the quality of these ingots establishes the fact that, in order to improve the quality of the steel smelted and reduce rejection of ingots due to hot cracks and that of seamless tubing by rolled-in scabs, it is necessary that the basicity of the slag at the close of the period of pure boil be ≥ 2.7. An increase in the Fe-oxides contents will also increase ingot rejects due to cracks and scab. Increased metal temperature on tapping makes for a reduction in Fe oxides in the slag and improvement in ingot quality. To check the effect of various methods of deoxidation on the quality of steels of various grades, comparison is made of the quality of metal

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Influence of Melting Procedure on Steel Quality

smelted after prior deoxidation in the furnace by blast furnace Fe-Si and that deoxidized in the ladle only. The melting and pouring procedures are identical in all other respects. Determination of [H] in the metal by the Batalin instrument shows that upon deoxidation in the ladle [H] diminishes by 15-25%, and this leads to a reduction in rejects of seamless tubing due to rolled-in and surface scab and rejects of ingots due to sub-surface blisters. Rejection of ingots due to hot cracks is virtually identical in the two cases. On deoxidation in the ladle, the content of endogenous nonmetallic inclusions is somewhat reduced, while that of the exogenous remained at virtually the previous level.

V.G.

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PROKHORENKO, K.K.; URINSON, A.I.

Ineffectualness of forced adding of metal to cast steel. Vop. proizv.stali no.3:130-134 '56. (MLRA 9:11)
(Founding)

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PROKHORENKO, K.K.

Content of hydrogen in carbon steels smelted in basic open-hearth furnaces with air and steam atomized fuel oil. Vop.proizv.stali no.3:120-124 '56. (MLRA 9:11)
(Steel--Hydrogen content)

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PROKHORENKO, K. K.

Category : USSR/Solid State Physics - Phase transformation of solid bodies E-5

Abs Jour : Ref Zhur - Fizika, No 1, 1957, No 1198

Author : Prokhorenko, K.K.
Title : Distribution of Non-Metallic Inclusions in the Structure of Cast Carbon Steel.

Orig Pub : Vopr. proiz-va stali. Vyp. 3. Kiev, AN USSR, 1956, 125-129

Abstract : No abstract

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PROKHORENKO, K.K.

Distribution of nonmetal inclusions in the structure of cast carbon steel. Vop.proizv.stali no.3:125-129 '56. (MLRA 9:11)
(Steel castings)

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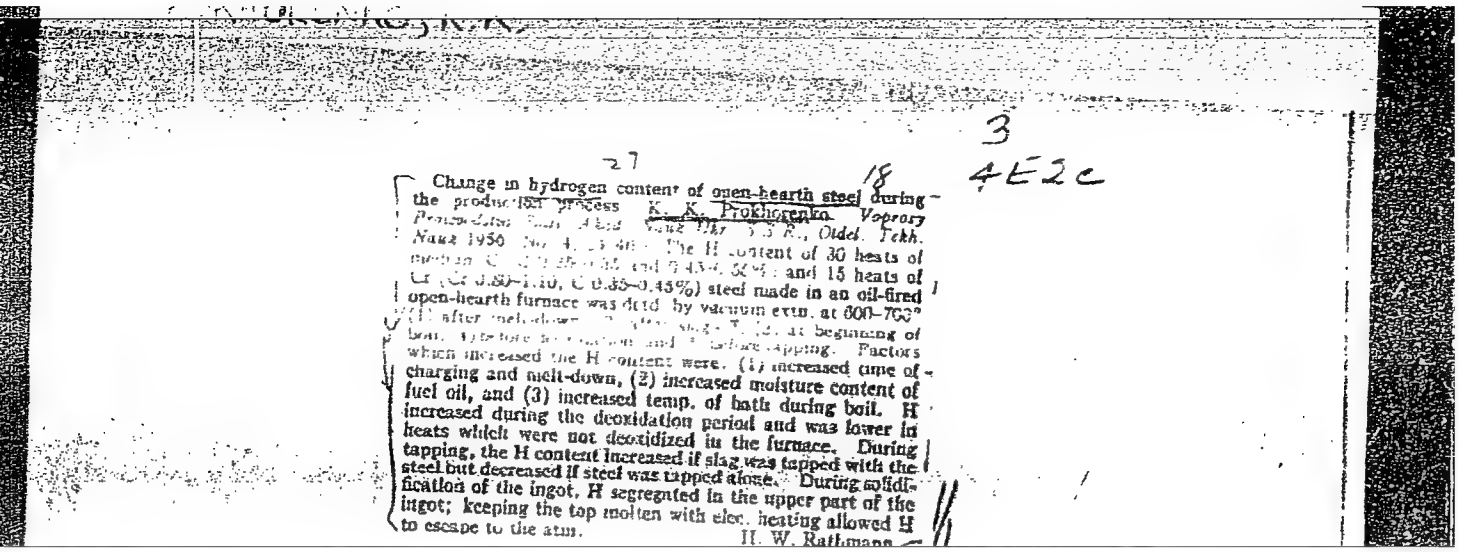

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Change in hydrogen content of open-hearth steel during the production process K. K. Prokhorenko. *Voprosy Proizvodstv. Stali Akad. Nauk Ukr. S.S.R., Otdel. Tekh. Nauk* 1950 No. 4, 33-48. The H content of 30 heats of medium C (C 0.25-0.35 and 0.43-0.50%) and 15 heats of C (C 0.80-1.10, C 0.35-0.45%) steel made in an oil-fired open-hearth furnace was detd. by vacuum extn. at 600-700° after melt-down, after boil, at beginning of boil, before deoxidation and before tapping. Factors which increased the H content were: (1) increased time of charging and melt-down, (2) increased moisture content of fuel oil, and (3) increased temp. of bath during boil. H increased during the deoxidation period and was lower in heats which were not deoxidized in the furnace. During tapping, the H content increased if slag was tapped with the steel but decreased if steel was tapped alone. During solidification of the ingot, H segregated in the upper part of the ingot; keeping the top molten with elec. heating allowed H to escape to the atm.

H. W. Rathmann

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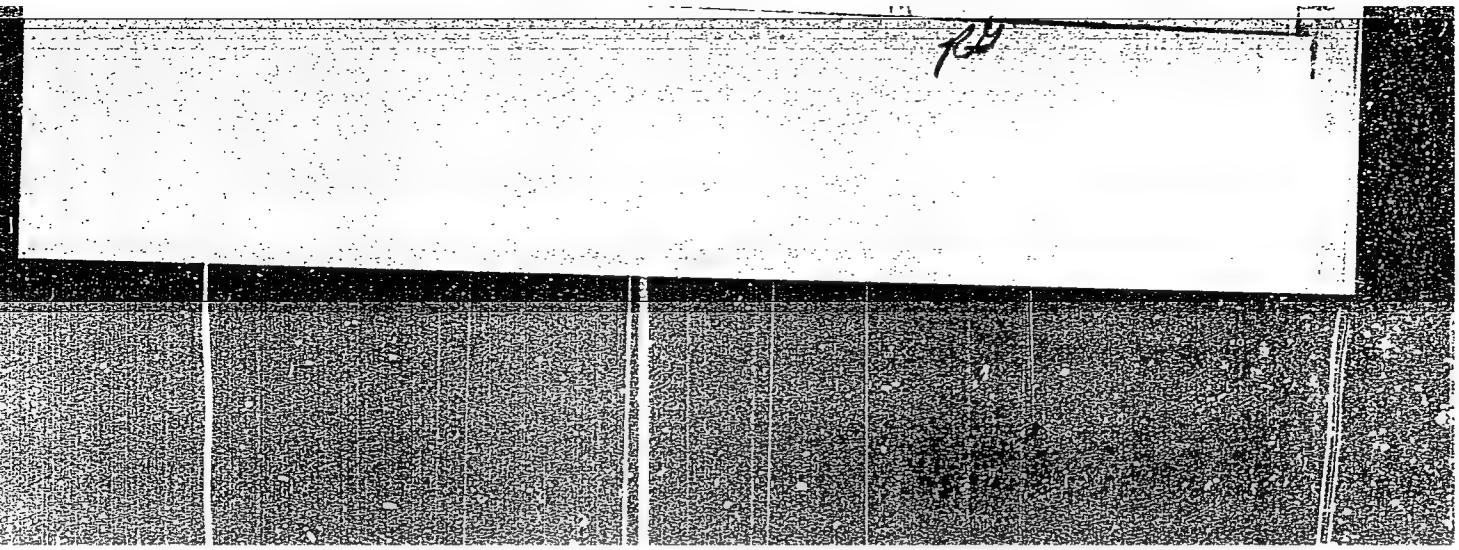

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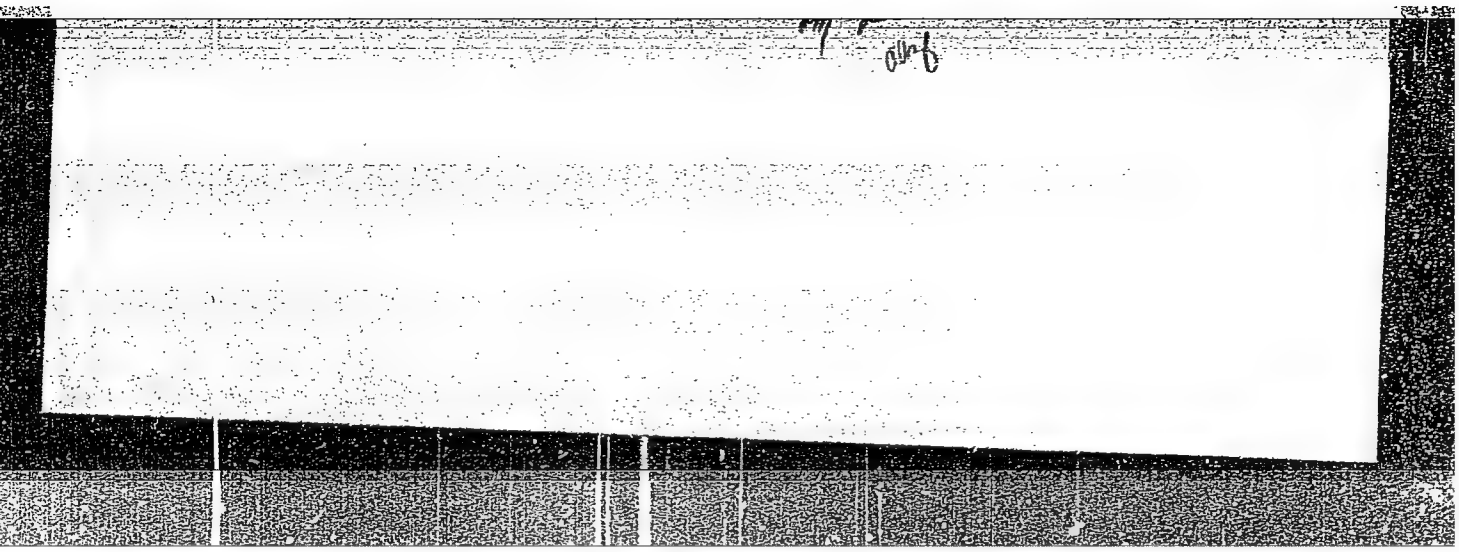

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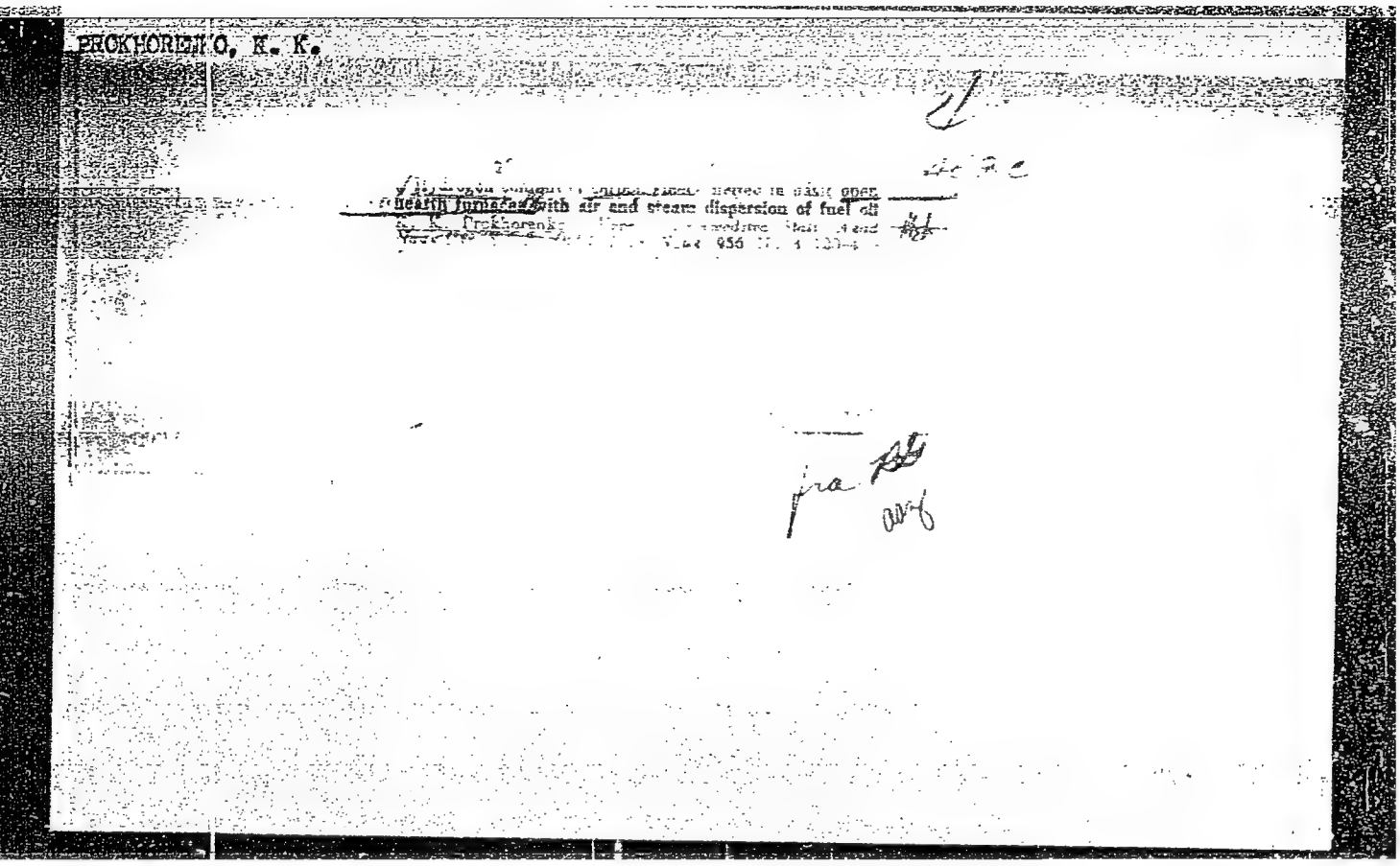

PROKHORENKO, K. K.

Prokhorenko

Heating furnaces with air and steam dispersion of fuel oil

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PROKHORENKO, K.K.

18(3); 18(5) PHASE I BOOK EXPLOITATION SOV/2452

Akademiya nauk Ukrainskoy SSR. Otdeleniye tekhnicheskikh nauk

Voprosy proizvodstva stali, vyp. 4 (Problems in Steelmaking; Nr. 4) Kiyev, Izd-vo AN Ukrainskoy SSR, 1956. 163 p. 3,000 copies printed.

Resp. Ed.: N. N. Dobrokhotov, Academician, UkrSSR Academy of Sciences; Ed.: B. A. Kazantsev; Tech. Ed.: A. D. Zhukovskiy.

PURPOSE: This book is intended for advanced students and for scientists and personnel in the metallurgical industry.

COVERAGE: The papers in this collection present information on recent Soviet technological developments stated to be of considerable theoretical and practical importance in the production and teeming of steel. A number of articles deal directly with matters of method (alloying, deoxidizing, top and bottom pouring, production of open-hearth and electric steel). Some are concerned with the investigation of phenomena such as change

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of hydrogen content during the production of steel. Others describe the effect of various factors on the final product (shape of ingot, pouring temperature, addition of aluminum, etc.). There is one book review. References follow some of the papers.

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Problems in Steelmaking; No. 4 • SOV/2452

Steel) by A. N. Morozov and A. I. Stroganov 156

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SOV/137-58-9-18679

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 9, p 76 (USSR)

AUTHORS: Prokhorenko, K.K., Verkhovtsev, E.V.

TITLE: Variations in the Hydrogen Content of Steel in the Course of Melting, Tapping, Pouring, and Solidification (Izmeneniye soderzhaniya vodoroda v stali v protsesse yeye vyplavki, vypuska, razlivki i zatverdevaniya)

PERIODICAL: V sb.: Staleplavil'n. proiz-vo, Moscow, Metallurgizdat, 1958, pp 162-171

ABSTRACT: The influence of various factors upon [H] in Nrs 30, 50, and 40 Kh steels melted from charges of solid steel (scrap) in 50-t heavy-oil-heated basic open hearths is investigated. No relationship was found between [H] upon fusion and the composition of the charge (amount of swarf and light scrap). Increase in [H] causes an increase in the charging and melt-down periods, during which the metal is not covered with slag and reacts with the water vapor in the furnace atmosphere. The moisture content of the heavy oil used to fuel the furnaces influences the H content of the furnace atmosphere and consequently that of the metal upon fusion. During boil there is no relationship between the rate of

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Variations in the Hydrogen Content of Steel (cont.)

removal and change in [H]. This is due to the fact that degasification and saturation of the metal with hydrogen occur simultaneously. An increase in the pure boil time, which makes for an increase in the temperature of the metal, leads to an increase in [H]. A considerable diminution of [H] in the steel and, as a result thereof, a reduction in ingot rejection due to blister is attained by tapping the heat without prior deoxidation in the furnace. A special investigation of the metal from 350-t tilting open hearths, tapped into 2 ladles (with and without slag) showed that the [H] in the steel diminishes if the furnace slag does not enter the ladle with the metal, but increases if the metal is tapped with slag. The H undergoes segregation during crystallization of the ingot and enriches the mother liquor. Heating of the hot top and maintenance of an exposed liquid metal surface during the period of crystallization contribute to the removal of the H from the steel into the atmosphere.

L.K.

1. Steel--Melting 2. Hydrogen--Phase studies

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SOV/137-58-9-18581

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 9, p 58 (USSR)

AUTHORS: Prokhorenko, K.K., Kopit, G.S., Urinson, A.I., Lomakin, A.V.

TITLE: On the Expediency of Smelting Pipe Metal Without Preliminary Deoxidation (O tselesoobraznosti vyplavki trubnogo metalla bez predvaritel'nogo raskisleniya)

PERIODICAL: V sb.: Staleplavil'n. proiz-vo. Moscow, Metallurgizdat, 1958, pp 11-18

ABSTRACT: Experimental smeltings of killed steels carried out at the metallurgical im. Andreyev plant in Taganrog were divided into two series: the first series involved preliminary deoxidation in the furnace with the aid of Fe-Mn only, in conjunction with the addition of 45%-Fe-Si and Al into the ladle; in the second series Fe-Mn was added to the ladle rather than to the furnace. In the first instance, in case of steels D and St. 4, the Si losses were reduced from 20-33% to 5-16%; in the second instance, in the case of steels 40Kh and 50, the Si and Mn losses were reduced from 35-37 and 35-40%, respectively, to 13-15 and 25-26%. The smelting period was reduced by 15 minutes, a time commonly employed for preliminary deoxidation. The number of

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On the Expediency of Smelting Pipe Metal Without Preliminary Deoxidation

external flaws on the ingots remained unchanged. During inspection for rejects it was established that the number of pipes rolled from this metal and possessing external and internal flaws was relatively smaller than the number of identically affected pipes made of metal which had been subjected to preliminary deoxidation in the furnace. The amount of nonmetallic inclusions, as well as the quantity of hydrogen contained in steels of the experimental smeltings, was in all instances found to be smaller than in the case of smeltings with preliminary deoxidation. Mechanical properties of the steels of both groups are virtually identical.

L.K.

1. Steel---Processing 2. Pipes---Production 3. Pipes---Inspection

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

PROKHORENKO, K.K.

Defects in structural steel ingots and their removal. Vop. proizv.stali no.5:92-112 '58. (MIRA 12:5)
(Steel ingots--Testing) (Steel--Defects)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

BATALIN, G.I.; PROKHORENKO, K.K.

Determination of the gas content in open-hearth slags. Vop. proizv.stali no.5:63-70 '58. (MIRA 12:5)
(Slag--Analysis) (Vacuum apparatus)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

SOV/137-59-5-9969

Translation from: Referativnyy zhurnal, Metallurgiya, 1959, Nr 5, p 76 (USSR)

AUTHOR: Prokhorenko, K.K.

TITLE: Defects in Structural Steel Ingots and Their Elimination

PERIODICAL: V sb.: Vopr. proiz-va stali, Nr 5, Kiyev, AS UkrSSR, 1958, pp 92 - 112

ABSTRACT: Investigations were carried out on ingots of "30KhNZA", "5KhNM", "OKhM" and other steel grades, used in the manufacture of rings for gear rims and other parts. The steel was smelted by the scrap process in basic, mazut-fired 90-ton open-hearth furnaces and formed by bottom casting. The ingots were air-cooled and, after dressing, they were annealed at 650° - 700°C. Then they were cut into blanks which were hammer-swaged, broached, reduced in thickness, and rolled into rings on a tire-rolling mill. It was established that the formation of single blisters beneath the crust, the honeycomb formation and the impurity contamination were caused by

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Defects in Structural Steel Ingots and Their Elimination

a turning of the crust. Recommendations are given how to prevent these defects and rejects due to longitudinal hot cracks. The author shows that the amount of blanks rejected due to cracks depends on a series of factors characterizing the steel smelting technology.

Ye.K.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

PROKHORENKO, K.K.; VERKHOVTSEV, E.V.; KONYUKH, V.Ya.; MIKHAYLOV, A.S.

Slag conditions in the scrap process of steel smelting. Vop.proizv. stali no.8:78-87 '61. (MIRA 14:6)
(Steel—Metallurgy) (Slag)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

S/137/61/000/011/027/123
A060/A101

AUTHORS: Prokhorenko, K.K., Ishchuk, N.Ya., Vvedenskiy, V.S., Vasil'yev, N. Ye., Verkhovtsev, E.V.

TITLE: Reduction of the contamination of electric steel by fine cracks and non-metallic impurities

PERIODICAL: Referativnyy zhurnal. Metallurgiya, no. 11, 1961, 53, abstract 11V305 (V sb. "Vopr. proiz-va stali", no. 8, Kiyev, AN USSR, 1961, 55 - 69)

TEXT: Steel 30 XH 2 MΦA (30KhN2MFA) is smelted in 20-ton arc furnaces and is cast in 2-ton ingots. In connection with the fact that this steel is sensitive to fine cracks, a study was made of the influence of the reducing method upon formation of fine cracks, its nonmetallic impurity content and its mechanical characteristics. The following variants of the reduction method were tried out: diffusion reduction by 75% Fe-Si with the admixture of 0.5 kg Al per ton at the end of the heat; the same but with Al added before the admixture of Fe-Cr; "precipitation" reduction by 45% Fe-Si and 0.5 kg Al per ton at the end of the heat; the same with 1.5 kg Si-Cd per ton in the ladle; reduction of 45% Fe-

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Reduction of the contamination ...

Si and Al 1.0 kg/ton at the end of the heat; the same but with 1.5 kg Al per ton. The percentage by weight of nonmetallic impurities in the steel was the lowest at the increased Al admixture (1.0-1.5 kg/ton). It was established that the main reason for the formation of fine cracks in the steel 30KhN2MFA are large oxide impurities deformed in the direction of rolling; the oxide impurity content and the steel affection by cracks are reduced as one raises the quantity of Al-introduced into the steel; the steel has the greatest contamination when the Al is added before introducing the Fe-Cr; the reduction method - diffusion of "precipitation" has no influence upon the quality of the steel; when Si-Cd is used for reducing the steel, the number of cracks is reduced but their size becomes greater; the mechanical characteristics are basically the same for all the variants of the reduction method. There are 15 references.

V. Boyarshinov

[Abstracter's note: Complete translation]

Card 2/2

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

LYUBETSKIY, David Geselevich; PROKHORENKO, K.K., inzh., retsenzent; SOROKA, M.S., red.

[Producing steel and castings in vacuum] Proizvodstvo stali i otlivok v vakuume. Kiev, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1959. 172 p. (MIRA 12:5)
(Vacuum metallurgy)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

Prokhorenko K.K.

18(5) PHASE I BOOK EXPLOITATION SOV/1907

Akademiya nauk Ukrainskoy SSR. Kiyev Otdeleniye tekhnicheskikh nauk

Voprosy proizvodstva stali vyp.6 (Problems of Steel Production, No 6) Kiyev, Izd-vo AN Ukrainskoy SSR, 1958. 137 p. Errata slip inserted. 2,000 copies printed.

Resp. Ed.: B.E. Dobrokhotov, Academician, Ukr. SSR Academy of Sciences; Ed. of Publishing House: N.M. Labinova; Tech. Ed.: V.I. Turkishina.

PURPOSE: This book is intended for engineers and scientific personnel in the field of steel production.

COVERAGE: This is a collection of articles dealing with various aspects of the production of steel, including the designing of open-hearth furnaces, thermal processes in the furnaces, thermodynamics of steel-making processes, technology of producing high-grade steel, and changes in the size and shape of ingots. Other topics discussed are the properties of chrome-manganese stainless steels, improvement of ball-bearing steel, ingot defects, ingot quality as determined by temperature of teeming and shape of mold, and certain aspects of steel rolling. Some of the articles are accompanied by references, both Soviet and non-Soviet.

Shan, E. Kh., and N.F. Makonechnyy. Investigation of the Properties of Chrome-Manganese Stainless Steels 41

Prokhorenko, K.K., and E.V. Verkhovtsev. Improving the Quality of Shock Ball-Bearing Steel 49

Verkhovtsev, E.V., and K.K. Prokhorenko. Ingot Defects Caused by Skin Folds Forming During the Teeming of Steel 65

Prokhorenko, K.K., P.K. Tkachov, E.V. Verkhovtsev, and V.A. Tyshkovets. Exothermic Mixture for Heating Hot Tops of Steel Castings 77

Yefimov, V.A., N.P. Sabirov, and V.P. Grebenyuk. Effect of the Hydrodynamics of the Inflow of Liquid Steel Into the Ingot Mold on Ingot Quality 87

Yefimov, V.A., V.I. Danilin, N.F. Lapshova, V.P. Grebenyuk, and A.A. Kiselev. Effect of Teeming Temperature and Mold Shape on the Quality of Steel Ingots 96

Yefimov, V.A., N.P. Sabirov, and V.P. Osipov. Reduction of Head and Butt Crops in the Rolling of Ingots 110

Yefimov, V.A., V.P. Osipov, and A.M. Malishko. An Investigation of the Conditions for Rolling Sheet Bar With Wavy Surfaces 123

Fedorovich, V.G. Experiments in the Conversion of High-phosphorus Pig Iron in a Converter With Side Blast of Oxygen 130

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

PROKHORENKO, K.K.; SHCHEKIN, N.P.; SERGIYENKO, S.M.

Effect of certain technological factors on the quality of structural steel. Metallurg 4 no.1:11-14 Ja '59.
(MIRA 12:1)

(Metallurgical plants--Quality control) (Steel, Structural)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

ISHCHUK, N.Ya., kand.tekhn.nauk; PROKHORENKO, K.K., inzh.

Accelerating the making of electric steel. Met. i gornorud. prom. no.2:11-14 Mr-Ap '62. (MIRA 15:11)

1. Institut ispol'zovaniya gaza AN UkrSSR.
(Steel--Electrometallurgy)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

S/133/62/000/005/006/006
A054/A127

AUTHORS: Vvedenskiy, V.S., Zelenov, V.A., and Prokhorenko, K.K.

TITLE: Distribution of nonmetallic inclusions in structural steel ingots

PERIODICAL: Stal', no. 5, 1962, 454 - 457

TEXT: Tests were carried out to determine the quantity, composition and distribution of nonmetallic inclusions in 3 XH 2 MΦA (30KhN2MFA) steel ingots. The metal was reduced according to 6 versions, at metal temperatures between 1,530 and 1,630°C and by adding aluminum for reduction at various stages of the process in amounts of 0.5, 1.0 and 1.5 kg. Diffusion reduction was applied in two versions and precipitation reduction in the other versions. Prior to dissolving, the specimens were heat-treated to decrease the carbide content (water-quenching from 880°C, tempering at 300°C, cooling in the furnace). Dissolving took place in an electrolyte containing 3% $FeSO_4 \cdot 7 H_2O$, 1% NaCl and 0.2% $KNaC_4H_4O_6$ (pH = about 4.5 - 5.5). The analysis results of the 6 versions were:

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

S/133/62/000/005/006/008
A054/A127

Distribution of.....

Version	I	II	III	IV	V	VI
Total quantity of inclusions 10^{-3}%	17	11	12	10	6.4	5.8
Compsition of the inclusions %						
TiO_4	1.7	1.7	0.8	1.4	1.6	1.9
Al_2O_3	73.3	81.8	81.7	75.3	69.3	60.8
Silicates	25.0	16.5	17.5	23.3	28.1	37.3

(Versions I, II: diffusion method; versions III-VI: precipitation method). The largest number of inclusions formed when applying version I (adding 0.5 kg aluminum/ton before tapping the metal into the ladle). When increasing the amount of aluminum to 1.0 kg (version V) or 1.5 kg (version VI) and applying the precipitation reduction method, the number of nonmetallic inclusions decreased, also in the skin layer of the ingot. Version VI produced the most uniform distribution of nonmetallic inclusions in the ingot and, at the same time these ingots showed the most homogeneous macrostructure, evidently on account of a more intensive reduction of the metal, whereas the greatest amount of nonmetallic inclusions can be found in zones of nonhomogeneous macrostructure, (axial zone of

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

Distribution of.....

S/133/62/000/005/006/008
A054/A127

ingots, reduced according to versions, I, III and IV). In general the center of the ingot (in height and section) was impurified most by inclusions, whereas the zone below the riser contained the fewest impurities. By increasing the amount of aluminum added the difference in the size and shape of inclusions in the external and central parts of the ingot decreases. The increased amount of aluminum (1.0 - 1.5 kg/ton) also affects the composition of inclusions: it decreases their aluminum oxide content. In version III reduction was carried out by adding 0.5 kg aluminum/ton before tapping and 1.5 kg calciumsilicate/ton into the ladle. In this case the nonmetallic inclusions were mainly concentrated in the lower part of the ingot, whereas their distribution in the ingot section was fairly uniform. When reducing with increased amounts of aluminum (up to 1.5 kg/ton) aluminum oxides occur in crystal form and large conglomerates; when reducing with calcium-silicate, large, spheroidal inclusions are forming, containing aluminumoxide crystals, coated with silicate shells. There are 5 figures.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

S/137/61/000/012/021/149
A006/A101

AUTHORS: Prokhorenko, K. K., Ishchuk, N. Ya., Vasil'yev, N. Ye.

TITLE: Distribution of non-metallic impurities in ball bearing steel ingots

PERIODICAL: Referativnyy zhurnal. Metallurgiya, no. 12, 1961, 59, abstract 12V359 (V sb. "Vopr. proizv-va stali", no. 8, Kiyev, AN UkrSSR, 1961, 70 - 77)

TEXT: To study the distribution of non-metallic impurities, 3 ingots weighing 700, 2,000 and 3,000 kg were syphon-cast from metal of one heat. The steel was melted in a 20-ton electric furnace. Diffusion deoxidation of the metal was performed with low-carbide slag which was converted into white slag at the end of the reduction period. The metal was finally deoxidized with Al (450 g/t). During the teeming of the heat into the ladle the metal was mixed with the slag. The composition of the steel in % was: C 1.0, Mn 0.34, Si 0.28, S 0.01, P 0.014, Cr 1.3. Plates were produced by longitudinal axial cutting of the cast ingots. After polishing the plates, imprints were taken for S determination and their surfaces were subjected to deep etching. Specimens of the plates were subjected to metallographic investigations of non-metallic impurities, electrolytic dissolving

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and determinations of chemical heterogeneity. Specimens and samples were taken off the crust zone, the zone of columnar and equiaxial crystals, and along the ingot axis. Along the ingot height samples were taken every 200 mm. It was established that non-uniform contamination of the steel by non-metallic impurities was due to the heterogeneous macrostructure of the ingots. The middle and lower portion of the ingots where the macrostructure is worst, were most contaminated with non-metallic impurities. A direct dependence was established between the extent of non-metallic impurities and the ingot weight, but no such dependence was revealed for the content and the area of impurities.

P. Arsent'yev

[Abstracter's note: Complete translation]

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L 18061-63 EWP(q)/EWT(m)/BDS AFFTC/ASD Pad JD/HM/JG

ACCESSION NR: AT3002169 S/2921/63/000/009/0073/0078

60

AUTHORS: Yemel'yanenko, Yu. G.; Prokhorenko, K. K.; Tyutina, A. Ye.

TITLE: Electrolytic extraction of nonmetallic inclusions from stainless steel 18

SOURCE: AN Ukr RSR. Viddil tekhnichnykh nauk. Voprosy proizvodstva stali, no. 9, 1963, 73-78

TOPIC TAGS: stainless steel, nonmetallic inclusion , electrolytic extraction

ABSTRACT: A new method for separating carbide inclusions from steel is discussed in detail. The method is based on the principle of a simultaneous solution of metal and carbide, which can be achieved by a proper choice of the electrolyte composition. A scheme for the device used in the experiment is presented, and the working procedure is explained. This method is characterized by the full preservation of the oxide fraction and by the solution of carbides contained in steel. The carbide solution occurs because of the polarization of metallic surface and an increase in the anode passivation (which does not affect the carbides). The author concludes that the new method provides a rapid and accurate determination of oxide inclusions in stainless steel. Orig. art. has: 1 table and 3 figures.

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L 18061-63
ACCESSION NR: AT3002169

ASSOCIATION: none

SUBMITTED: 00 DATE ACQ: 10May63 ENCL: 00

SUB CODE: ML NO REF SOV: 001 OTHER: 000

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(2)

L 15577-63 EWP(q)/EWT(m)/BDS AFFTC/ASD JD/JG 63

ACCESSION NR: AT3002167 S/2921/63/000/009/0051/0064

AUTHORS: Prokhorenko, K. K.; Svistunov, A. M. (deceased); Vvedenskiy, V. S.; Verkhovtsev, E. V.; Yemel'yanenko, Yu. G.; Nakonechnyy, N. P.; Pastukhov, V. N.

TITLE: Technological improvements in melting and pouring of stainless steel 19 70

SOURCE: AN Ukr RSR. Viddil tekhnichnykh nauk. Voprosy* proizvodstva stali, no. 9, 1963, 51-64

TOPIC TAGS: stainless steel, technological improvement, melting, pouring

ABSTRACT: The old methods of melting and pouring steel are criticized. New procedures used in both processes and the results obtained are described and discussed. The furnace charge used in the improved method of melting consisted of 30-70% scrap steel (stainless carbon steel low in P and carbon ferrochrome). The total content of C, Cr, and Si in the charge was 0.3-0.5%, 17-19%, and 0.4% respectively. Oxygen was blown in under a pressure of 15 atm., after which the metal temperature was raised to 1850-1880C. As a result, the carbon content was lowered to 0.05% and that of Cr to 12.9%. The slag formed was fluid, homogeneous, and contained 48.6% Cr_2O_3. The amount of silicochrome, which was introduced at the end of blowing, was calculated in such a way that the metal contained 3% Si and

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ACCESSION NR: AT3002167

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1.5% of lime by weight of metal. After 10 minutes 15% (wt) of blooms were introduced for the cooling purposes. The new method provides for the melting of stainless steel containing a minimum of 0.06% carbon by using carbon ferrochrome or a 100% high-chromium scrap (without the use of carbon-free ferrochrome). The improved method of pouring is based on the formation of a slag layer on the open surface of the ingot, preventing metal oxidation in the ingot. Moreover, the liquid slag solidifies on the ingot walls, thus serving as a lubricant that protects the walls. It also dissolves floating nonmetallic inclusions and prevents formation of a coarse crust on the ingot surface by moderating the surface cooling of the metal. Orig. art. has: 4 tables and 4 figures.

ASSOCIATION: none

SUBMITTED: 00 DATE ACQ: 10May63 ENCL: 00

SUB CODE: ML NO REF SOV: 004 OTHER: 001

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APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

VASIL'YEV, N.Ye.; VERKHOVTSEV, E.V.; PROKHORENKO, K.K.; SVISTUNOV, A.M. [deceased]; KACHANOV, N.N.

Improving the quality of ball bearing steel. Izv. vys. ucheb. zav.; chern. met. 6 no.11:88-92 '63. (MIRA 17:3)

1. Izhevskiy mekhanicheskiy institut.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

DOBROKHOTOV, N.N., akademik [deceased]; GREBEN', K.A.; KONYUKH, V.Ya.; POKOTILO, Ye.P.; KOBEZA, I.I.; GOL'DENBERG, I.B.; PROKHORENKO, K.K.; ISHCHUK, N.Ya.; KHAN, B.Kh.;

[Steel production in open-hearth furnaces] Martenovskoe proizvodstvo stali. Moskva, Izd-vo "Metallurgiia," 1964. 239 p. (MIRA 17:6)

1. Akademiya nauk Ukr.SSR (for Dobrokhotov).

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

PROKHORENKO, K.K.; VASIL'YEV, N.Ye.; ISHCHUK, N.Ya.; VERKHOVTSEV, E.V.

Reducing nonmetallic inclusions in roller-bearing steel. Vop. proizv.stali no.7:94-116 '60. (MIRA 13:8)
(Steel--Defects)
(Bearing metals--Defects)
(Nonmetallic materials)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

PROKHORENKO, K.K.

Nonmetallic inclusions in steel. Vop.proizv.stali no.7:82-93 '60. (MIRA 13:8)

(Steel--Defects)
(Nonmetallic materials)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

VERKHOVTSEV, E.V.; PROKHORENKO, K.K.; MIKHAYLOV, A.S.

Effect of the speed of pouring on the quality of steel ingots.
Vop.proizv.stali no.7:74-81 '60. (MIRA 13:8)
(Steel ingots) (Metallurgical plants--Quality control)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343120007-0

SOV/130-59-1-6/21

AUTHORS: Prokhorenko K.K., Shchekin, N.P. and Sergiyenko S.M.

TITLE: Influence of some Technological Factors on the Quality of Structural Steel (Vliyaniye nekotorykh tekhnologicheskikh faktorov na kachestvo konstruktsionnoy stali)

PERIODICAL: Metallurg, 1959, Nr 1, pp 11-14 (USSR)

ABSTRACT: At the Kulebaki metallurgical works objects (rail tyres and gear blanks) made of types 30 KhN3A and 35 KhGSA and other steels are frequently defective because of longitudinal surface cracks and blowholes both under the surface and in deeper layers of the ingots and non-metallic inclusions. The steels are melted in oil-fired (air atomization) basic open hearth furnaces with careful exclusion of moisture from the charge, cast into two ladles through a bifurcated runner and bottom poured into big-end-up, twelve-sided 2.5 tonne moulds with hot tops. The authors describe a special investigation at the works, in which works-made firebrick hollow-ware was used, to find ways of eliminating the flaws. It was found that increasing the quantity of aluminium in deoxidation failed by itself to prevent blowholes and increasing deoxidation time led to a higher incidence of these flaws (Figs 1 and 2 show

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